THE PLOUGH BOY.

AND JOURNAL OF THE BOARD OF AGRICULTURE.

BY SOLOMON SOUTHWICK.

"He that observeth the wind shall not sow; and he that regardeth the clouds shall not reap."—BUT—"He that tilleth his land shall have plenty of bread."—*Ecclesiastes*

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Address,

Delivered before the Hampshire, Franklin and Hampden Agricultural Society, at their Annual Meeting in Northampton, Oct. 25, 1820.

BY J. H. LYMAN.

[CONCLUDED FROM OUR LAST.]

No people on earth have more powerful inducements to internal improvement, than the inhabitants of New-England—none have fewer difficulties to encounter. Our soil and climate, it is true, are often made, by the thoughtless and ignorant, a theme of obloquy—but *to them* we owe much of our moral and political welfare. On the one hand, they are sufficiently hard and inclement, to require activity and industry, which are indispensable to the health of body and mind, and on the other, they are a barrier against the vices and imbecility incident to a self-producing soil and warmer clime. We are in a happy medium between the sterility of the frigid and the enervating luxuriousness of the torrid zones.—Cheerfulness and strength, are the natural product of our toil and our atmosphere.

Here the labourer and the landlord are the same. The husbandman cultivates his own acres and reaps his own harvest. A free and equal government, impartially administered, extends equal protection to equal rights. Our fields are not, as in Europe, covered by an ignorant and debased peasantry—toiling in the thraldom of vassalage. No slave driver here gives the signal for labour, by the sound of his lash; nor is the hour of repose here disturbed, by the heart-broken groan, or indignant execration of "oppressed humanity." The buoyancy of hope attends our seed time; and our harvest home is vocal with the carols of gratitude.

The means of education are abundant, and accessible to all; and the "church-going bell" is audible in every farm house.

Public honour and confidence, are the meed of intelligence and virtue. Mutual attachment and respect, spring naturally from such a soil; and as little of jealousy and rancor exists, as the imperfection of our nature warrants us to expect. It is an article of our faith, and an axiom of our policy, that the interests of agriculture, commerce and manufactures are in unison—and while husbandry, is from the nature of things, the business of much the largest portion of our citizens, still our situation and necessities, require the due co-operation of the other arts. There is a shrewdness and intelligence, which enables the citizen to judge correctly, when he should be his *own artist*, and when true policy requires an exchange of his raw materials, for foreign fabrics. The merchant and navigator are his factors and facilitate the exchange to the mutual benefit of all.—The surplus capital produced by the mercantile enterprize of past years, and the increase of a hardy and virtuous population, furnish the most efficient means for extended operations.

Our difficulties then are few, and our facilities numerous.

Are there no moral considerations to stimulate us to exertion? A spirit of inquiry and habits of activity confer moral health—the mind expands by its own exercise, and its capacities for improvement are co-ordinate with its attainments. A happy and virtuous society is only to be found where industry and moral culture exist. A taste for intellectual pleasures, and a diligent devotion of time to the legitimate occupations of life, lie at the root of domestic happiness; and the bearings of family relations upon the welfare of any community are too obvious to need comment—an increasing, prosperous and virtuous population, owes its existence to those relations.

And has the politician no interest in this question? Let him inquire what lies at the foundation of political welfare—a just, enlightened and powerful population—conscious of its own worth and of its honourable standing in the consideration of others—conusant of its rights and resolute to defend them. It is for such qualifications, that nations respect each other, and where mutual respect exists, no slight provocation will destroy between them the relations of peace.

The effect of an active spirit of internal improvement, upon the virtue and intelligence of a community, we have already noticed. In case of war, an army actuated by moral considerations; possessed of moral strength, as well as physical hardihood—of fortitude as well as bravery, would be irresistible. Our population already partakes of this character; and it is susceptible of an indefinite extension and improvement.

Wealth also is power. And who will deny, that to the culture of the soil, and the diligent improvement of our internal resources, we are chiefly to look hereafter for our wealth. To the individual this consideration needs not to be urged—it will readily address itself to his cupidity. But the statesman should not lose sight of it—for a *poor* nation is always comparatively *weak*.

To the patriot, whose heart glows with love for his country, and whose ken reaches futurity, this subject presents a single consideration of momentous import. Circumstances may hereafter arise, to put in hostile array, the two extremities of our Empire. Many moral, as well as physical causes, combine already, to create occasional disaffection; and should an event, so much to be deplored, ever occur, who among us would fail to lament our apathy and inertness, were we now to neglect the extension of our political influence and power. Indeed it admits not of a doubt, that one of the surest safeguards, against such an occurrence is to be found, in our vigorous and unceasing efforts to increase our population and wealth, to cultivate and improve our domestic means, and thus to enhance our respectability and importance, in the eyes of our *brethren*. Those who are conversant with *their* sentiments, will assure you, that the little political influence now possessed at the east and north, is in a great measure to be attributed to our own indifference. And is not the present respectability and the future safety and welfare of our country worth an effort?

Lack we then aught of inducement? If so, the divine charities of our religion fill up the scale. The Christian philanthropist looks with a holy joy upon every measure calculated to advance and improve our population and resources—to furnish new messengers of the cross, and new facilities for their support.

It then becomes us to inquire, what peculiar duties devolve upon *us*. In pursuing this inquiry, I shall have particular reference to the territory embraced by this society.

Those among us who have not already united themselves to our association, will indulge me in the remark—that if the considerations already urged, and the principles already advanced, are founded in truth, their interest and their duty imperiously demand of them, that they should no

longer hesitate to lend their aid and co-operation in this good work. Our interests are the same—and they cannot be unaware, that the combined efforts of all may effect much, which a partial effort may fail of accomplishing. Generosity and justice also require at their hands, an *equal* contribution for the *common* good. An ingenuous and liberal mind, revolts at reaping the harvest which others have planted.

As the people of New-England are distinguished from all others, and in a measure a race *sui generis*, so the character of our population and our geographical position, constitute Old-Hampshire the heart of New-England. There is no section of the country which offers a broader field of improvement. Early associations and recollections, bind us together with the strong ligaments of affection ; and although for municipal purposes it has been thought advisable to draw new lines of division, yet for all the valuable purposes of this *society*, we naturally and with mutual advantage remain *united*.

When the establishment of this society was first contemplated, delegates assembled from all the counties, and but one opinion was expressed as to the expediency of *union*. This judgment has been ratified by the promptness with which the roll and the funds of the society have been filled at the north and the south. Let then no sectional jealousy spring up to mar the work so happily ommenced ; and let all remember that consentaneousness of opinion and mutuality of interest bind us together. Our early association, the nature of our pursuits, and the topography of our territory, facilitate union of action. Intersected in the centre by a noble stream, furnishing on each side a rich interval for mowing and arable, and bounded east and west by ranges of towns, admirably adapted to grazing and the raising of stock ; our territory embraces the vender and the purchaser, and associates them in the same community. Thus united, they may so condense the whole surplus of our produce, as to facilitate its transportation to an ultimate market.

The grazier and grower of stock, by the ready sale he finds at home, has encouragement to care and industry in the selection and improvement of his breeds—while the feeder, by the exuberance of the products of the interval, and the convenience with which he supplies his stalls, is enabled to furnish the remoter markets with the best qualities, and at the most favourable rates.

It is remarked by Sir John Sinclair, that " the division of professions, between *breeding* and *feeding*, is a most important link in the progress of agricultural prosperity." In this respect *our* situation is peculiarly propitious. In no other part of New England can a parallel be found ; and let us not lose sight of this advantage. The richness of the Nile, and the productiveness of its borders, have been proverbial from the remotest ages—but the margins of *our river* gain by the comparison, if we credit the most approved historians. The President de Goguet, who has collated them all, fixes the mean product of Egyptian fertility at 10 for 1. Nor did the shepherds and herdsmen of Israel enjoy finer pastures than our hills afford, although Joseph *gave them possession in the land of Egypt, in the best of the land, in the land of Rameses, as Pharaoh had commanded.* Let then the grazier and the feeder pursue with alacrity and diligence their respective employments—cherishing for each other a respect and good will, as mutual as their interests. Sound policy and true economy also require, that while their efforts abroad, are directed to an extended profit, both should see to it, that the bread of idleness is not eaten at home—and without sacrificing any of the accomplishments, which adorn the social and sweeten the domestic circle, let them encourage their wives and daughters to put their hands to the distaff.

The practical farmer, if he be systematic in his arrangements, will find abundant leisure for reading and indutry. This leisure is often times lost or misimproved. I assume it as granted, that among us, the elements of a good English education, are acquired by all in their minority. Should exceptions exist, where opportunities are so liberally and profusely scattered, they are without excuse. Let then the farmer apply a due proportion of this leisure, to the acquisition of those principles of physics, which modern science has discovered and elucidated, and which derive their principal value from the practical uses to which *he* may apply them. Thus theory and experiment, may be made to co-operate in the grand work, of amelioration and improvement. The nature of the climate in which he lives, and the elements and powers of the soil which he cultivates, being understood, the uncertainty of conjecture, and the errors of ignorance will all be obviated. He will be enabled to select such breeds of animals as are best adapted to the climate—and to pursue such a rotation of crops, apply such manures, and in short adopt such a mode of cultivature, as an enlightened experience dictates The farmer should also recollect, that much of his thrift depends upon a prudent economy in the disposition of his labor, and the husbanding of his crops. He should be his own calculator and accountant ; and for this purpose should accustom himself to keep a journal of his proceedings, and a daily and systematic account of his receipts and disbursements. Thus he will be enabled in a succeeding year, to rectify the errors of the past, and in all instances to ascertain, with precision, his profit and loss.

Although, to enter upon *details*, is beyond the scope of my design, and neither your patience or my opportunity for preparation, authorize it, I cannot forbear remarking here, that there are few errors in our agricultural economy, which so pressingly claim correction, as those which relate to *hired labor*. They have probably resulted from the circumstance, that our husbandry is mostly accomplished by the personal labor of the proprietor and his sons. There are, however, in all countries, even in ours, some who are hirelings through life ; and it is in relation to them I speak.

The errors consist, in the gross disproportion of the price of labor, to the price of its product, and in the extravagant and demoralizing distribution of ardent spirits. The laborer and the landlord are alike interested in the correction of these errors. No farm can maintain itself long, under such inequality and extravagance ; and the employment and support of the laborer unemployed, and debased in health and morals, meet in the same refuge of both, the jail or the poor house.

The practical farmer only, can remedy these evils ; and at his hands the remedy is demanded by suffering community. Personal example and concerted regulation alone are requisite.

Moral and religious reading, which leads to habits of industry and order— to the avoidance of those vicious excessess which debase the mind, enervate the frame, impoverish the purse, and poison the sources of social happiness, are also entitled to a portion of the farmer's leisure.

He is also often called to discharge the duties of a magistrate and a legislator. To the reputable and successful discharge of these duties, integrity and intelligence are indispensable—and, indeed, should he never have occasion to act in those capacities, he will find that the best security of his own rights, and of the perpetutity of the government, rests on the virtue and information of the people. Let him then devote the residue of his leisure to the history, geography and statistics of his country—and above all, bear in mind, that in proportion as he becomes familiar with the principles on which our government is based, he will find himself impelled to cherish and maintain the scientific and literary, the moral and religious institutions of our fathers. The crude notions of political sciolists, and the sinister projects of unprincipled demagogues, will equally meet with his contempt, and his detestation.

Gratitude demands of us the recollection, that peculiar obligation devolves on the present generation.

Our ancestors, the first settlers, and their descendants to the time of the revolution, had arduous, hazardous, and important duties to discharge, growing out of their infant and defenceless state. The revolution imposed upon our fathers a no less interesting task—in the midst of poverty, of weakness and of treachery, to assert and maintain their freedom against superior power—and to lay the basis and build the superstructure of an independent and enlightned government.

The commotions of the old world, which immediately ensued, while they opened a wide field for enterprise, created the most urgent necessity for wisdom and vigilance at home and abroad. Their vigilance has brought us safely through the storm—their wisdom has preserved to us our invaluable institutions—and their enterprize has superinduced great and unexpected wealth. The easy and delightful duty remains to us, to cultivate, improve and adorn this rich inheritance, and pass it down to our posterity. All the facilities growing out of the confirmation of a free and equal government—the advancement of science—a superabundance of capital—a greatly increased population, and an entire relief from all foreign and domestic entanglement, leave us without excuse, and almost without other object of attention.

Finally, Fellow-Citizens—Each for himself must be up and doing—not content with saying *God speed you*, he must lend his own hand to the plough. If the principles here advanced are true, he must make them the guide of his own conduct—he must throw his mite of zeal and effort into the common treasury. Of an effort so united, none can estimate the result. Old pre-

judices, and habits sanctioned by long usage, but ill adapted to the present times, must be discarded. No practical man must be so bigoted, ignorant, or illiberal, as to depreciate the great objects of our association. He must be willing to draw from the wisdom of the learned, the experience of the scientific, and the dictates of a sound practical common sense, all those useful lessons, which are to lead him on from improvement to improvement, until *our hills and our vallies are made to bud and blossom like the rose*, and that spot of earth which seems to have been designed and adapted by a kind Providence, for the favourite residence of *liberty and plenty*, of *beauty and culture*, of *intelligence and moral worth*, shall have fully attained to its high *destiny*.

FOR THE PLOUGH BOY.

On an Improved state of Farming.

This, in the extended sense of the term, is the foundation of national prosperity, and the greater the improvemements in this art, and the science connected with it, the more abundant the wealth and the comforts, where such improved farming prevails. Manufactures and commerce are the natural results of such improved cultivation, and serve as the ligaments which bind a people together in their career to nationalpower andgreatness. In a finely cultivated country, there is also the abode of science, for science can only flourish in a land of plenty; but where the labours of the cultivator are so illy directed that his crops do little more than remunerate him for the labour and expense bestowed in raising them, he must remain poor; the country where such cultivation prevails must be poor; manufactures and commerce must remain in their infancy, and science there can only rise to an attitude of very inferior degree.

That the system of husbandry usually practised in our country was formerly so poor, that its products were commonly little more than sufficient to pay the labourer for his labour; that the general improvements lately made in our farming, have advanced with a tardy step; and that there is ample field for such further improvements as would afford three times the clear profits that are generally derived from our farms, are facts too evident to need much illustration. When we turn to some of the best cultivated districts in Europe, to England for instance, the extent of whose cultivated lands does not much exceed those of this state, and whose soil is incapable of yielding so abundantly as our own may be made to yield; when we find her lands sustaining a population of 10,000,000 of people, whose yearly burthens in taxes,are greaterthanthe wholeamount of our national debt; we must conclude that the immense power and resources of that nation are in a great measure the effect of a superior system of farming prevalent there; and that the clear profits derived from their lands must be three or four-fold greater than they are here. I do not point to England as the best cultivated part of Europe; perhaps Flanders is entitled to this pre eminence; but with the effects of superior cultivation in the former country we are best acquainted.

And is it impracticable to introduce into this state, a system of culture adapted to our soil, that shall be as excellent for us as that of England is for that country? Certainly not. Time will effect it, without extraneous aid: but perhaps not in the course of two centuries. How then shall this be accomplished in less than twenty years? By *Governmental aid*. Let government take agriculture by the hand, and make judicious applications of money for the general diffusion of the knowledge requisite to improve our state of farming, and I am persuaded that in less than twenty years, the cultivators would, on an average, find the incomes derived from their farms more than doubled. There are, at present, probably about 10,000 farms in the state, whtch we will say, are worth, on an average, $100 dollars a year, making the total income of our farmers, $10,000,000 annually. Double this would afford an increase of wealth in the state of ten milllons in 20 years, were our population to remain stationary; but as it has about doubled every 20 years, and probably will, for the next twenty, the increase of wealth annually derived from our farming lands must be put at double the amount just mentioned at the expiration of the next 20 years. I feel indeed persuaded that every dollar judiciously appropriated by the state for the general diffusion of knowledge in the means of improving our present poor state of farming, will have the effect, in the time just mentioned, of increasing the wealth of the state to an amount of more than twenty times the sum expended for the purpose.

I am sensible that, from the too common want of sufficient suitable education among the cultivators of our lands, the introduction of improvements among them has frequently to encounter strong prejudices. The more ignorant the farmer, the more he is usually attached to his own system of farming, or that which his father practised before him. Ignorance and self-sufficiency of knowledge are generally inseparable. Arthur Young, Esq. in adverting to this source of difficulty, in promoting improvements in farming in England, calls them the *John Trot* farmers of his country. Fortunately, however, we have many of a different description, who have knowledge sufficient to know that there is an ample field before them for improvement; and all our future advances must be through the influence, and practical examples, of cultivators of this description. Their successful practices must serve to overcome the prejudices of the less enlightened; for such, when they have improved modes of husbandry constantly before their eyes, must sooner or later copy the examples. What seems therfore to be essentially wanting in the way of governmental aid, for further promoting improvements, is the means for the diffusion, throughout every town in the state, of all the stores of agricultural knowledge, whether derived from abroad, or in our own country, including drawings and descriptions of all the implements, of the best construction, used in the various branches of husbandry; drawings of the most improved breeds of horses, neat cattle, sheep, swine and other useful animals, as well as of all that is calculated to diffuse every sort of information requisite for the best management of rural affairs. Our Legislature, it is true, have evinced an enlightened policy in the measures already adopted for the promotion of the great objects in question; but a plan for the general diffusion of agricultural knowledge, throughout every town in the State,seems to be still essentially requisite.* It appears to me indeed that a yearly appropriation of money for this purpose would have an infinitely more beneficial effect, when compared with the expense necessary to be incurred for the purpose, than any other measure that can be adopted for effecting great and permanent improvements in our general system of farming. Some of the most essential improvements are next to be mentioned.

1. In orcharding, particularly in the cultivation of the apple, and pear, and the quince tree. The improvements to be made in the apple and pear orchards consists principally in rearing grafted fruit trees of the *best* selections to be found. I shall hereafter shew that there is no difficulty in raising an orchard of such selected fruit that shall afford *six* times the *clear profits* which are usually derived from orchards, as they are usually cultivated. I shall then also say something of the advantages of cultivating the quince, and for what use.

2. In the most approved construction of ploughs. With the old ill shaped ploughs, with wooden soles and mould boards, the strength of three horses were requisite for breaking up a piece of sward land. With the best constructed ploughs, now getting into use, more particularly those of Wood's and Burden's, two horses can easily perform the same labour; of course, with the use of such newly constructed ploughs, the farmer need keep but two horses, while with the old sort of plough he has to keep three. Here then is a saving of about $35 a year, for such, at least, will be found the yearly expense in keeping a common working horse.

3. By stocking farms with the most improved breeds of horses, neat cattle, sheep, swine, &c.

4. By the adoption, to a considerable extent, of the *soiling plan*, for keeping horses, oxen and cows. The superiority of this plan must however depend on situation, the sort of land, and other circumstances.

5. By a judicious rotation of crops.

6. By improving the breeds of seeds for crops, for seeds are probably susceptible of as great improvements as may be made in the breeds of cattle, of all sorts.

7. By the most eligible methods of producing the greatest quantities of manures, and the means of using them most profitably.

8. By the best means of warming dwelling rooms, &c. with the least expense.

9. By making the most of every product of the farm, after it has been raised, or produced.

10. By the cultivation of valuable plants, not cultivated in this state at present.

11. By the most approved method of keeping bees to the greatest advantage, and the knowledge of protecting them from destructive insects, which have proved very formidable to them in many parts of this country.

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* Since writing the above I have learned that a *Memorial* has been presented to the Legislature, having for its object provision for the means of placing one of the yearly volumes of *The Plough Boy* in the hands of the Clerk of every town in the state; a plan which appears to be admirably calculated for the purpose above mentioned.

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On an Improved state of Farming.

This, in the extended sense of the term, is the foundation of national prosperity, and the greater the improvemements in this art, and the science connected with it, the more abundant the wealth and the comforts, where such improved farming prevails. Manufactures and commerce are the natural results of such improved cultivation, and serve as the ligaments which bind a people together in their career to nationalpower andgreatness. In a finely cultivated country, there is also the abode of science, for science can only flourish in a land of plenty; but where the labours of the cultivator are so illy directed that his crops do little more than remunerate him for the labour and expense bestowed in raising them, he must remain poor; the country where such cultivation prevails must be poor; manufactures and commerce must remain in their infancy, and science there can only rise to an attitude of very inferior degree.

That the system of husbandry usually practised in our country was formerly so poor, that its products were commonly little more than sufficient to pay the labourer for his labour; that the general improvements lately made in our farming, have advanced with a tardy step; and that there is ample field for such further improvements as would afford three times the clear profits that are generally derived from our farms, are facts too evident to need much illustration. When we turn to some of the best cultivated districts in Europe, to England for instance, the extent of whose cultivated lands does not much exceed those of this state, and whose soil is incapable of yielding so abundantly as our own may be made to yield; when we find her lands sustaining a population of 10,000,000 of people, whose yearly burthens in taxes,are greaterthanthe wholeamount of our national debt; we must conclude that the immense power and resources of that nation are in a great measure the effect of a superior system of farming prevalent there; and that the clear profits derived from their lands must be three or four-fold greater than they are here. I do not point to England as the best cultivated part of Europe; perhaps Flanders is entitled to this pre eminence; but with the effects of superior cultivation in the former country we are best acquainted.

And is it impracticable to introduce into this state, a system of culture adapted to our soil, that shall be as excellent for us as that of England is for that country? Certainly not. Time will effect it, without extraneous aid: but perhaps not in the course of two centuries. How then shall this be accomplished in less than twenty years? By *Governmental aid*. Let government take agriculture by the hand, and make judicious applications of money for the general diffusion of the knowledge requisite to improve our state of farming, and I am persuaded that in less than twenty years, the cultivators would, on an average, find the incomes derived from their farms more than doubled. There are, at present, probably about 10,000 farms in the state, whtch we will say, are worth, on an average, $100 dollars a year, making the total income of our farmers, $10,000,000 annually. Double this would afford an increase of wealth in the state of ten milllons in 20 years, were our population to remain stationary; but as it has about doubled every 20 years, and probably will, for the next twenty, the increase of wealth annually derived from our farming lands must be put at double the amount just mentioned at the expiration of the next 20 years. I feel indeed persuaded that every dollar judiciously appropriated by the state for the general diffusion of knowledge in the means of improving our present poor state of farming, will have the effect, in the time just mentioned, of increasing the wealth of the state to an amount of more than twenty times the sum expended for the purpose.

I am sensible that, from the too common want of sufficient suitable education among the cultivators of our lands, the introduction of improvements among them has frequently to encounter strong prejudices. The more ignorant the farmer, the more he is usually attached to his own system of farming, or that which his father practised before him. Ignorance and self-sufficiency of knowledge are generally inseparable. Arthur Young, Esq. in adverting to this source of difficulty, in promoting improvements in farming in England, calls them the *John Trot* farmers of his country. Fortunately, however, we have many of a different description, who have knowledge sufficient to know that there is an ample field before them for improvement; and all our future advances must be through the influence, and practical examples, of cultivators of this description. Their successful practices must serve to overcome the prejudices of the less enlightened; for such, when they have improved modes of husbandry constantly before their eyes, must sooner or later copy the examples. What seems therfore to be essentially wanting in the way of governmental aid, for further promoting improvements, is the means for the diffusion, throughout every town in the state, of all the stores of agricultural knowledge, whether derived from abroad, or in our own country, including drawings and descriptions of all the implements, of the best construction, used in the various branches of husbandry; drawings of the most improved breeds of horses, neat cattle, sheep, swine and other useful animals, as well as of all that is calculated to diffuse every sort of information requisite for the best management of rural affairs. Our Legislature, it is true, have evinced an enlightened policy in the measures already adopted for the promotion of the great objects in question; but a plan for the general diffusion of agricultural knowledge, throughout every town in the State,seems to be still essentially requisite.* It appears to me indeed that a yearly appropriation of money for this purpose would have an infinitely more beneficial effect, when compared with the expense necessary to be incurred for the purpose, than any other measure that can be adopted for effecting great and permanent improvements in our general system of farming. Some of the most essential improvements are next to be mentioned.

1. In orcharding, particularly in the cultivation of the apple, and pear, and the quince tree. The improvements to be made in the apple and pear orchards consists principally in rearing grafted fruit trees of the *best* selections to be found. I shall hereafter shew that there is no difficulty in raising an orchard of such selected fruit that shall afford *six* times the *clear profits* which are usually derived from orchards, as they are usually cultivated. I shall then also say something of the advantages of cultivating the quince, and for what use.

2. In the most approved construction of ploughs. With the old ill shaped ploughs, with wooden soles and mould boards, the strength of three horses were requisite for breaking up a piece of sward land. With the best constructed ploughs, now getting into use, more particularly those of Wood's and Burden's, two horses can easily perform the same labour; of course, with the use of such newly constructed ploughs, the farmer need keep but two horses, while with the old sort of plough he has to keep three. Here then is a saving of about $35 a year, for such, at least, will be found the yearly expense in keeping a common working horse.

3. By stocking farms with the most improved breeds of horses, neat cattle, sheep, swine, &c.

4. By the adoption, to a considerable extent, of the *soiling plan*, for keeping horses, oxen and cows. The superiority of this plan must however depend on situation, the sort of land, and other circumstances.

5. By a judicious rotation of crops.

6. By improving the breeds of seeds for crops, for seeds are probably susceptible of as great improvements as may be made in the breeds of cattle, of all sorts.

7. By the most eligible methods of producing the greatest quantities of manures, and the means of using them most profitably.

8. By the best means of warming dwelling rooms, &c. with the least expense.

9. By making the most of every product of the farm, after it has been raised, or produced.

10. By the cultivation of valuable plants, not cultivated in this state at present.

11. By the most approved method of keeping bees to the greatest advantage, and the knowledge of protecting them from destructive insects, which have proved very formidable to them in many parts of this country.

* Since writing the above I have learned that a *Memorial* has been presented to the Legislature, having for its object provision for the means of placing one of the yearly volumes of *The Plough Boy* in the hands of the Clerk of every town in the state; a plan which appears to be admirably calculated for the purpose above mentioned.

12. By a knowledge, as far as it has been ascertained, of the various insects which prey on the labours of the farmer, and the means, as far as discovered, of preventing their ravages.

The foregoing are merely the most prominent cases where great improvements may be made with great advantage, while a great number of others of less note might be stated. But for the purpose of a more satisfactory illustration of the foregoing, it is my intention to exhibit the contrast between the common method of cultivating a farm of, say 100 acres, and that of cultivating say only one third of this number of acres in the most approved manner; and I trust I shall be able to convince every *intelligent* farmer that the small farm of only 33 acres, may, by most judicious cultivation, be made to afford a greater income to its proprietor than the larger one, when cultivated in the manner that is but too commonly prevalent in our state; and having shown this, the conclusion must naturally follow, that there is much need of Legislative aid for effecting such rapid agricultural improvements as our Legislature can effect, for the purpose of raising our state to a more elevated standing among the states composing the Union, and for eminently promoting the prosperity of our citizens. J. N.

A New System of Cultivation,

Without Lime, or Dung, or Summer Fallows: as practiced at Knowle Farm, in the County of Sussex. By Major-General Alexander Beatson, late Governor of the Island of St. Helena, and Honorary Member of the Board of Agriculture.

"Petty operations, incessantly continued, in time surmount the greatest difficulties, and mountains are levelled, and oceans bounded, by the slender force of human beings."—*Doctor Johnson.*

II. ON THE ABOLITION OF FALLOWS.

Fallows not necessary in the improved husbandry—Ruinous effects of their abolition would render the United kingdoms independent of foreign supplies of grain—Importance of the subject—Attended to in France and in the Netherlands—Plans suggested for an entire abolition—Symptoms of a change in the old husbandry—Remarkable contrast in a crop manured with dung, and calcined clay—Drill husbandry recommended—A new mode of row culture, without using a drill.

"The practice of fallowing," says the author of the New Farmer's Calendar, "the miserable substitute of former times for manure and the hoe culture, can no longer be necessary on any soils, under the improved state of husbandry." Although I entirely concur in this opinion, and have wholly abolished fallows on my own lands, yet, as they are considered indispensable in the broadcast husbandry, for the purpose of eradicating weeds, mellowing the soil, and obtaining puiverization, I shall offer a few remarks on this particular branch of husbandry, which I consider one of the principal causes of "*keeping down the produce of land below what it would otherwise rise to.*"

It is well known that every farmer who fallows, pays a year's rent and taxes for a portion of his land, that is to remain unproductive for that year; and that the preparation for the crop is the most laborious and most expensive of all his operations. This, however, I have already shown, is of little consequence to the farmer: the charge falls upon the land-proprietor, the revenue, and the community at large; and the general effect of the fallowing system is, to diminish the produce of the land throughout the kingdom at least one-fifth under what it would be, if the fallowed acres were made productive, and added to those which are now annually in cultivation.

This addition would be more than sufficient to render these kingdoms fully competent to supply with bread corn the present population, without breaking up new lands; which would require a vast application of capital that might in other enterprises be more profitably employed, unless means can be devised (as I am of opinion they might) for introducing more economical and more profitable systems of husbandry, than those which are at present very generally adopted.

Every means ought therefore to be attempted to banish so absurd a practice from all our systems. Already there are many decisive proofs in our own country, in Flanders, in Switzerland, and in France, of the successful abolition of fallows. In France, particularly, great efforts are making to root out a practice, which is considered "*destructive de tout espece de prosperite mais bientot* (says M. Yvart) *nous devons esperer d'arriver successivement a l' abolition de la Jachere absolue, sur le territoire Francais parcequ'un grand nombre de cultivateurs zeles et instruits, osant braver tous les obstacles que leur opposent la routine et les prejuges donnent a leurs voisins d' utiles exemples qu'ils ne pourront manquer d'imiter.*"

Sir John Sinclair, in his hints on the agriculture of the Netherlands, has communicated some facts that are well deserving the attention of those who still contend for the necessity of fallows. He informs us, that "after a considerable struggle," they have been almost abolished in the plain of Fleurus; and that the Swiss farmers have entirely abolished them. It would be fortunate for the community, and for our agriculturists themselves, if such examples were imitated in every part of the United Kingdoms.

The Society of Agriculture at Boulogne-sur-mer, (as appears by a process verbal of their sitting on the 24th of May, 1819.) after adverting to fallows, and the great disadvantage of keeping one-third of the lands unproductive every year, which is the practice in that part of France, have offered a premium for the best memoir upon the net produce from a three years course of lands of the same quality kept in fallow, and from those where fallows have been abolished.* Encouragement of this sort may be of use in removing prejudices in favour of long established customs; but, in my own opinion, a more effectual mode would be, to institute *small experiments* throughout the kingdom, for the purpose of determining this, and every other disputed point in agriculture. This could be done at a mere trifle of expense to the land proprietors who may undertake them. Some of my most valuable experiments were made on spaces of only a rod square to each. Upon this small extent may be ascertained, with sufficient accuracy for any practical purpose, the relative effects of a fallow or no fallow—of deep or shallow ploughings—of cloddy surface or fine pulverization—of one stirring or of frequent stirrings of the soil—of thick or thin sowing, and of all the various sorts of manure, within reach of the estates upon which those experiments may be made. In short, I know from twelve years experience, that there is no point in practical agriculture which could not be decided in this manner—without entering into long, and sometimes angry discussions, which only serve to tire and perplex those who read them.

I have often been asked—"Has your mode of farming been adopted? do the farmers come into it?" the answer is obvious—that a farmer has no inducement to adopt new plans, and therefore is perfectly satisfied with the old.—Besides, under the condition of the leases, however much he may be convinced of the advantages of a new method, or however desirous he may be of imitation, he dare not attempt it—he must adhere to fallows—to lime, and to the whole expensive routine laid down for him, otherwise he is liable to certain penalties expressed in the lease.*

I have already noticed that fallowing of land is considered indispensable in the broad-cast husbandry—and possibly it may be so in some particular cases, where that mode of husbandry is practised: but, it seems to me, if it were conducted in a different manner—if dung were seldom permitted to be put on arable land for corn crops—if burnt clay, or marle, or soil, were substituted for lime; and, if the stubble of every corn, tare, bean, or pea-crop, preceding the wheat or any other crop, were loosened by baulk-ploughing and scarifying, and afterwards raked with a portion of the soil, containing the roots and seeds of weeds, and the whole burnt in the manner I practise in my new husbandry, I am of opinion, that by these easy means, which effectually clean the land, and produce a finer pulverization—even in the broad cast system, fallowing might be dispensed with. This opinion is founded upon many proofs I have had of

* Sir John Sinclair states, that it has been ascertained in Flanders, that after a fallow, wheat produces at the rate of only 12 1-2 per seed; whereas its produce, after rape or colsat, is 13 1-2, and that the crop is not so liable to be affected by the mildew" Hitherto my best crops of wheat have succeeded winter tares. This has induced me to adopt the rotation of. 1. *Tares.* 2. *Wheat.* 3. *Oats.* 4. *Clover and Ray Grass.* The tares are manured—and the wheat stubble being burnt with a small portion of the soil, cleans and prepares the land for the oats and grasses.

* Some farmers, or rather small proprietors, who reside at a distance, having heard of my mode of farming and of burning clay, visited my farm some months ago. I readily gave them every information they desired,—and convinced as they were of the ruinous expenses of lime, and of the cheapness of my mode of management, they have made a beginning in burning clay. One of them, Mr. Gibeon Jarvis, whose farm I visited, in the parish of Ticehurst, gave me the following particulars of his intended experiments.

He burnt, in a heap, 241 cart loads of a very stiff soil, mixed with grass and other vegetable matter For the labour of diggieg and burning, he paid a shilling per cart load of 14 bushels—or 12*l.* 1. The fuel consisted of three cords of roots, in a rough state, which he estimates at 18 shillings; and 25 kiln faggots at 2 shillings—so that the total cost of the 241 cart loads was 13*l.* 1,—or 13 pence per cart load.

These 241 cart loads were spread, at the rate of 54 loads per acre, upon rather more than 4 acres. Upon 1 1-2 acre he spread 1 3-4 load of lime—and the western part of this field of 10 acres, has been manured with a compost of dung and mould, at the rate of 40 of the above cart loads to the acre. Between these several manures he has left unmanured spaces. These experiments are arranged with judgment. I have no doubt, if he has well pulverized the soil and the clay ashes, that the result will be satisfactory, not only from my own experience, but from a comparison made by Baden Powel, Esq. of Langton, who, last year, manured one-half of a field of wheat with lime, and the other with burnt clay. When he viewed this field, just before the crop was reaped, it was equally good throughout.—no difference whatever was perceptible.

The success of the Ticehurst farmer would soon establish the general use of burnt clay, or soil, instead of lime, throughout his heighbourhood—which would tend greatly to improve the condition of the farmer, provided the land proprietors will sanction this change in the Sussex husbandry.

the extreme cleanliness of those fields, and the very fine pulverization of the soil, where those operations have been performed, and the calcined materials laid.

In a small field of wheat, where I had four burnt clay experiments, around which was a space unmanured, and beyond it, all the rest of the field manured with rot dung, at the rate of forty cart loads per acre. and the whole scarified, harrowed, and drilled, exactly in the same manner—those clay experiments maintained a very striking superiority, during the growth of three successive crops: the first was a mixture of oats and tares; and the second and third were wheat. At the time of reaping the wheat this year, the four experiments, which had respectively at the rate of ten, twenty, thirty, and forty cart loads of clay ashes per acre, were all greatly superior in produce, and perfectly clean and free from weeds, whilst the dunged part was absolutely choaked with knot and other grasses, and vastly inferior in produce, although the whole had been twice hoed during the growth of the crop. So very foul was the dunged part, when the crop was reaped, that each sheaf appeared to consist of, at least, a quarter part of those grasses and weeds * Fortunately, this was but a small patch of two acres; it was the only dunged part of fifty acres of wheat, and the only field that was this year infested with these grasses and weeds.

I ascribe the extreme foulness of this dunged wheat, to the farm yard having been littered with fern, and those grasses; and to this litter not having been sufficiently rotted, at the time it was carried to the land.

The general introduction of the drill husbandry, would undoubtedly be the most effectual method of getting rid of the heavy expenses of fallows, and of all their attendant evils; but, as this can hardly be expected on account of the existing prejudices against drilling, from an idea that it is troublesome and expensive, it would certainly be conducive to the interests of agriculture, if this abolition could be brought about by some other means.

In addition to the method already suggested for attaining all the ends proposed by the summer fallow, at a very trifling expense, there is another method which has lately occurred in contemplating this very important subject. It is simply this—to meet the broadcasters half way, to allow them to sow the seed in the usual manner, and immediately afterwards, without harrowing, to throw the seed in ridges or rows, nine inches or more apart. This mode I have lately practised upon a field of nine acres, with an implement having four shares, which raises the seed and soil vertically, and then laps them over to the right and left, so as entirely to deposite and cover the seed to the depth of two or three inches. This machine will be more particularly explained, when I describe the other implements made use of in my present mode of cultivation.

It seems probable, that by such means, almost all the advantages of the drill machine are attainable. The seed is more completely covered at one operation, than with three or four harrowings; and being placed in rows, the crop would have the advantage of more air, a greater freedom for the lateral roots, and there would be a greater facility for hand-weeding, even if the rows did not admit of horse-hoeing between them; which is a point that remains to be ascertained.

I have long considered that the entire abolition of fallows is absolutely necessary, if we ever expect to attain perfection in agriculture, or to render this country *a great agricultural country*, which in my humble opinion it might be, if proper means were adopted for correcting existing errors and mismanagement: and for introducing a general system of economy and improvement throughout the kingdom.

That fallows were practised in the early ages, is certainly no argument for their continuance at the present time, when we have abundance of facts to prove that they can well be dispensed with. Their continuance, under such circumstances, can therefore only be ascribed to that unaccountable bias and prejudice, which we observe towards many other customs that have been long established.

Sir John Sinclair is inclined to believe, from what he was informed and saw in Flanders, that fallows are not necessary even on strong lands, if they can otherwise be cleaned and pulverized. That this cleaning and pulverization are perfectly practicable, even on the strongest and stiffest lands, will I hope be satisfactorily demonstrated in the following section.

By the entire abolition of fallows, two millions four hundred thousand acres,* in England and Scotland, of equally good lands as the other parts of the farms, would immediately be brought into cultivation without any additional capital, or any additional expense whatever; on the contrary, I have not the least doubt of proving by my own experience, that the expense of cropping the fallowed lands would even be less than is at present incurred, by keeping them unproductive of any thing, excepting that waste and extravagance I have already noticed.

How very different is all this from those plans of bringing waste lands into cultivation: a measure considered indispensable in almost every project that has been brought forward for procuring an independent supply of food for our population. What a prodigious capital would be necessary for rendering a similar extent of waste land productive: for defraying the charges of new buildings and inclosures, and for providing additional stock for so great a number of new farms! Rating those charges at only 20*l.* per acre, the capital that would be required to be sunk would amount to at least *forty-eight millions*: whereas, by the entire abolition of fallows, this sum would in a manner be added to the great fund or capital of the kingdom, without any expense whatever.

But this is not all, many other obvious advantages would accrue from the proposed abolition. Provisions of all sorts would become more abundant and cheap, which would tend greatly to the comfort of the labouring classes, and to a considerable reduction in the poor rates; much less labour and expense would be required to make the fallowed lands productive, than to give them for a whole year, the usual tedious and expensive preparation. In the next section I propose to illustrate this by examples—and I shall there show in what manner the farmers in my vicinity lavish the labour of twenty horses for one day in preparing each acre of their fallows for wheat: whilst I obtain absolutely a more perfect pulverization, and crops equally good without a fallow, and with the labour of only five horses for one day: and in some cases with even a less number.

Upon the whole, I think that this concise view will be sufficient to give a correct idea of the immense advantages that would flow from a total abolition of fallows; and, as it is a subject most intimately connected with the two grand principles of political economy, that of augmenting the revenue and providing food for the population, I am not without hopes it may attract the particular notice and attention of his majesty's government, and that some measures may speedily be adopted for putting down *opinions*, and a ruinous practice totally at variance with positive and incontrovertible facts.* To be convinced of this, we have only to look into the annals of agriculture—and we shall find abundant evidence of the successful abolition of fallows upon every description of soil; particularly by the improvements of Bakewell, Arbuthnot and others. Let the examples before us, become general, and there will soon be a vast amelioration in the agricultural circumstances of these kingdoms.

Upon the means of effecting so desirable a change, I have already offered a few observations; and I stated my opinion, *that the institution of small experiments throughout the kingdom, under the superintendance of the land proprietors*, (who are undoubtedly persons much interested,) appeared to me as likely to be the most easy, the least expensive and the most effectual.

* "Two very considerable and respectable farmers observed that if they manured their lands they must necessarily introduce *with their dung the seeds of weeds*. Three years ago I saw such a sight in a certain part of the famous county of Kent, as I scarcely ever witnessed, even under the old farming school. It was a piece of wheat coming into ear, in which the weeds were so much the greater and taller, that they appeared the proper crop, and the wheat neglected weeds. And I have lately been informed that in a certain fine country there are many examples, where the land is so entirely filled and choaked with couch grass, and weeds of every species, as to obstruct the plough, indeed to render ploughing so difficult, that the farmers rather choose to drag in their seed." *New Farmer's Calendar*, p. 618.

It seems to me that the best mode of cleaning land so extremely foul as that alluded to in the above extract, would be to scarify, and rake, and burn in the manner that has been described. This would be much more effectual than a summer fallow, conducted as it generally is by burying the seeds of those grasses and weeds, and raising large clods. If indeed the fallow were entirely worked by the scarifiers, by which the land would at once be brought into a fine state of pulverization, in this case, as every seed would be loosened from the soil, there would spring up an abundant crop of young weeds, which could easily be destroyed during the summer months, by passing the scarifier once or twice over the land, at a time when the weather is dry and warm. The whole of those young plants would by these means be withered and destroyed, and the soil by being thus open, and porous, would be in a proper condition for receiving a copious supply of all the rich and nutritious principles of vegetation, with which the atmosphere abounds.

* "There are in England about 2,200,000 acres in fallow every year, and 200,000 in Scotland" (Sir John Sinclair's Hints on the Netherlands, Pref. 1815.) The writer of the Survey of Middlesex states that there are about nine millions of acres in England and Wales under the course of two crops and a fallow,—i. e. six in crop, and three millions in fallow.

* One of the best essays on the subject of the abolition of fallows I have yet met with, is in a work entitled *Nouveau Cours complet d'Agriculture Theoretique et Pratique*; published in 1809. M Yvart, a professor of agriculture and rural economy, has treated the subject in so able a manner, and has adduced so many proofs of the successful abolition of fallows, in France, that I am of opinion if the whole of the article *Jachere*, were translated into English, and printed for general information, it could not fail to convince the fallowists that the system is wholly unnecessary, attended with enormous expense, and ruinous to their own as well as the public interests.

THE PLOUGH BOY.

ALBANY: SATURDAY, MARCH 17, 1821.

FOR THE PLOUGH BOY.

Cauliflower.

New-York, February 26, 1821.

DEAR SIR,--Mr. William Wilson, one of our most celebrated gardeners, and vice-president of the New-York Horticultural Society, has favoured me with his method of the culture of the cauliflower. Should you consider it worthy of a place in your most useful paper, *The Plough Boy*, you are at liberty to publish it.

Your sincere well-wisher,
THOMAS STORM.

S. Southwick, Esq.

The seed of the earliest kind of cauliflowers must be selected and sown about the middle of September, in an open border of common kitchen garden earth. Should the season prove dry, moderate waterings will be necessary to bring the plants up regularly, and to retain them in a growing state until the first of November. The plants are then to be carefully raised with a spade from the seed-bed, their long roots shortened a little with a sharp knife, and immediately planted in a good garden frame, about three inches distant each way. Give one gentle watering, and shade them from the mid-day sun for a few days, until they get well rooted. The ground on which the frame is to be placed, may be of the same quality of soil as the seed-bed; that is to say, well manured the preceding spring, and kept in good order through the season; and in a situation well sheltered from the northerly winds. A good lining of horse dung to be placed all around the outside of the frame to prevent the frost getting into the bed. A board cover to fit the sash, and over that must be added, in severe weather, a good covering of long litter or salt hay, &c. The chief art requisite in their future management, during the winter, is in admitting as much light and air as possible, without subjecting them to the influence of the frost. In all mild days the sash may be entirely drawn off the plants; and great care is necessary in clear frosty days to tilt the sash sufficiently to prevent the sun's drawing the plants up weak. Very moderate waterings when the ground becomes dry will be indispensable. Towards the middle of March the plants may be fully exposed to the open air almost every day, but must be sheltered every night by shutting up the sash until the beginning of April, or until the nights become mild, when the sash may be entirely left off, except on the approach of cold blustering storms, when they must still be sheltered. About the 10th of April the ground must be prepared to plant them out for good. A strong heavy soil, if well cultivated, produces the largest flowers. — However, any moderate loam will do. If the soil is strong it should be covered at least three inches with horse dung. If light soil, the same depth with cow or neats dung, in both cases well dug the depth of one spade, but not smoothed with the rake, as that rather inclines the surface to crust and is detrimental to the roots. The ground being thus prepared about the 15th of April, the plants may be set out in rows two feet every way. Previous to lifting the plants from the frame, it may be advantageous to water them a little, more or less, according to the moisture of the ground in the beds; their roots having been a little trimed at the time of their having been transplanted in the fall, may now, if the ground is moist, be raised with fine balls of earth round them, which must be carefully preserved around each root, and with it be put in the ground in their final transplantation. After this the plantation must be examined at least every morning for two weeks, and whenever the plants are observed to be cut off by the black grub, the grub must immediately be searched for and destroyed, and the plant replaced. The grub is easily found the first morning after the plant is cut off, seldom retreating above two or three inches from the stem, and scarcely one half inch beneath the surface. But if not destroyed at their first commencement, they soon acquire strength and activity, and soon destroy a large plantation. Frequent hoeing and mellowing the ground between the plants is necessary. And as the plants advance towards the last of May, the earth must be brought a little up round the bottom of the stems of the plants, after which they will produce their flowers without any further culture.

Another mode of culture is, to sow the cauliflower seed about the last of September in the frame, there to remain until the last of February or beginning of March, then plant them singly into small flower pots about 5 inches over at top, and retain them in frames under glass covers, to be occasionally used in all inclement weather until late in April, when they are to be turned out of the pots with the earth round them, and so placed into the open ground. Even those transplanted in the fall are sometimes potted towards spring, six or eight weeks previous to their being turned out into the open ground.— By potting them they flower earlier. But very fine crops are raised by carefully lifting the plants from the ground in the frames as first described.

Seed for a late crop may be sown on a warm border any time in the beginning of April, and the plants set out about the middle of May. This crop in general can only be cultivated on a small scale, as it is necessary in the beginning of October, to remove the whole of the plants into frames, to be retained under glass covers on nights and cold weather during their flowering state. They are to be laid in good mould half way up the stems, and so close that their tops nearly touch each other. And treated in much the same way as directed above for the seedling plants.

Poultry.

In the course of last season and the present winter, a disorder appeared among my poultry, by which I lost a number, and I became apprehensive that I should loose all. During this time I often changed their food, and applied a number of remedies, but all in vain. At length, on examination, I found the disorder to be seated on the tongue, and with a sharp-pointed pen knife, I took from the disordered ducks and fowls a hard substance which covered their tongues, as tough as leather. All those which I thus managed recovered. T. S.

FOR THE PLOUGH BOY.

MR. SOUTHWICK,

Many useful implements of husbandry have been introduced into practice through the medium of your paper, which tend greatly to the advancement of the agricultural interest of our country. Indeed so much useful knowledge as is contained in almost every number of *The Plough Boy*, cannot escape the notice of those who have the interest of the country at heart. But to the object of this communication.

As Gardening will soon commence, and as many derive a greater or less support from this branch of husbandry, I will here describe a very useful implement, which I will call a garden marking rake, and is to be used for marking out beds after the ground has been thus prepared.— It may be made in 30 minutes, and will mark out more ground for the gardener to seed than 4 men could perform in the common way in equal length of time.

The head of the rake, which may be any suitable piece of wood, or pole, is to be as long as your beds are wide; into this you bore holes, with an inch auger, at such distances as you wish to have your seed sown; put in teeth, sharpened at their lower ends; then take a slender pole, say, 6 feet in length, split one end, open the split a sufficient width, and insert the end of each, being first rounded for the purpose, into two holes, made in their proper places, in the head of the rake, wedge them fast in these holes, then put a pin through the other end of the handle, and your rake is completed. The head of the rake should be sufficiently heavy, and the handle and teeth should be at right angles.

In marking out your beds lengthways, you draw the rake after you, placing your hands behind you, and taking hold of the pin in the end of the handle. You first mark the middle of the bed at each end; then start at one of these marks and go, as strait as possible, to the mark at the other end; thus your bed is marked lengthways for the reception of the seed. If you do not wish to sow in rows, but at equal distances each way, then proceed to draw the rake across the bed beginning at one end; when drawn once across, let the outer tooth, at the second operation, run in the outer furrow from the end where you begin, and thus the work proceeds.

This is intended for those who are not in possession of any better means for effecting the object intended. Others may try it if they think proper.

Yours respectfully,
ISAAC W. AVERILL.

Gaines, Feb. 1821.

Weekly Summary.

Congress terminated its labours on Saturday evening the 3d inst. The most important acts passed were—the bill reducing the annual appropriation for the navy from one million to half a million; the military appropriation bill; the loan bill, by which the President is authorised to borrow five millions of dollars for the public service; and the bill providing for the occupation of the Floridas. The new loan of five millions, is reimbursable at the will of the government, at any time after the 1st of January, 1835.

Five millions of the inhabitants of the United States are devoted to agriculture.

The second inauguration of James Monroe, President of the United States, took place on Monday the 5th inst. Daniel D. Tompkins, Esq. was on the 3d inst sworn into the office of Vice-President, before the hon. Wm. P. Van Ness, district judge of the U. S. His Excellency has given one hundred dollars to the American Academy of Language and Belles Lettres.

Messrs. Gales & Seaton, the editors of the National Intelligencer, were, on the 3d instant, re-elected by the senate and house of representatives printers for the next congress.

We hear, from Washington, that Gen. ANDREW JACKSON will be offered the appointment of Governor of Florida. It is thought he will not accept.

A gentleman was accosted in N. Y. on Friday by a person with a "Pray, sir, will you be so obligin g as to show me the way to Burling slip?" After going some distance to show him, he gave his guide a push, seized his watch and made off.

The first number of a new weekly paper, called the *Long-Island Patriot*, was published on the 7th inst. by *Mr.* Birch, at Brooklyn.

Seven houses in Fulton street, corner of Broadway, New-York, were consumed by fire on the night of the 3d inst.

A person of the name of RUST, a journeyman printer of New-York, has invented a new printing-press. It is entirely of iron, and the cost of one large enough for an imperial form, will not exceed $175. The invention is greatly approved of.

The first four days of last week in New-York were severely cold, the wind being strong from northwest; and what was very remarkable at this season of the year, ice was formed on the Flats, and continued to float in small quantities in the rivers. The same state of weather has been experienced on the whole Atlantic coast.

The N. Y. Humane Soup Society issued last year to the prisoners in the debtors' prison 11,437 quarts of soup, and gave away at the soup house 69,279 quarts.

A line of steam-boats to trade directly between Louisville, (K.) and Havana and the West Indies, without stopping at New-Orleans, has been established. After this beginning, we may expect to see the principal settlements on the western waters refuse their tribute to that city, and becoming so many sea-ports themselves.

The Legislature of Maryland have passed a law making it the duty of every creditor who shall imprison a debtor, to pay the sum of eighty-seven and a half cents per week for his support.

The legislature of South Carolina have forbidden the opening of Lottery Offices, or the sale of Lottery Tickets in that state, under the penalty of $10,000.

The Legislature of Maryland have passed a law which exempts, in all cases of distress for rent, and in cases of execution for debt, the bed and bedding, wearing apparel, and other necessary articles of house-keeping, belonging to the tenant, to the amount of fifty dollars.

The legislature of Illinois, are about taking steps to connect Lake Michigan with the Illinois river. Should it be carried into execution, the Hudson and Mississippi will be united.

The population of Rhode-Island, amounted for last year, to 83,059; of whom 48 were slaves; 12,569 employed in agriculture; 1,162 in commerce; and 6,091 in manufactures.

The cotton factory belonging to Messrs. Haywood and Co. 3 miles from Petersburgh, Va. was consumed by fire, caused by the friction of machinery. Loss $40,000.

The apprentice library in Portland (Maine) contains 1200 volumes, and about 300 apprentices have availed themselves of its advantages.

An eastern paper states, that bachelors ought to be taxed by the legislature of Maryland as articles of *luxury*.

The last Tuscarora (Alabama) Republican says—The Freshet has, as we anticipated, done considerable damage on the margins of the rivers. The water rose 50 or 60 feet perpendicular, and inundated a large extent of low grounds, destroying in its course cattle, corn, and cotton to a great amount.

New-Hampshire contains 244,161 inhabitants.

A lady, (says a late Georgia paper,) was lately indicted, tried and convicted for——*scolding!* She was sentenced to be publicly ducked in the river.

The navigation of the river Delaware was free from ice on the 16th ult.

Nearly *one million* pair of shoes were manufactured at Lynn, Mass. in 1811, of sheep and goat skins, dressed in morocco fashion. The manufacture of morocco in America commenced in 1796.

The Society in Rhode-Island for the encouragement of domestic industry have obtained the grant of a lottery from the legislature of that state, "for the purpose of promoting the laudable objects of their infant institution."

A steam-boat is now building (says the Lancaster Journal) for the navigation of the Schuylkill, Penn. It is expected she will go at the rate of 9 miles an hour.

The following memoranda were subjoined to the census, lately taken, of the county of Prince Edward.—*Mrs* Rosanna Adams is 120 years old, and possesses health and unusual activity. Her sight is perfectly good. She is a native of Ireland. *Mrs.* Mary Wilson is 100 years old, and enjoys good health and sight. Miss Molly Jennings is also 100 years old, and enjoys good health and sight. These three females are residents of Prince Edward county, and engaged in domestic employment.

A person in the neighbourhood of Crosswicks, Burlington co. having set a gill-net for fish, found a large hawk seated on the water over the net, and a pike caught in the net, which had seized one foot of the hawk with his mouth, holding him to the spot.

A store at Easton, in which was kept the county surrogate's office, was destroyed by fire on the 24th ult. and about $2000 worth of goods, papers, notes, &c consumed.

The jail in Rappahannock, Va. was destroyed on the 3d inst. by a fire, which was kindled in one of the apartments by a criminal, who did it to release himself, and who fell a victim to the devouring element.

A duel was fought at ten paces, on the 3d inst. between *Majors* Smith and *Miller*, of the *Marine* corps, at Bladensburgh. *Major* Smith received the ball of his antagonist about an inch below the hip-joint; the ball penetrated about 5 inches into the flesh and injured the bone considerably. *Major M.* was uninjured.

A late Missouri paper says, a man, whose name is Johnson, was lately convicted of forgery. When the verdict was pronounced, the prisoner, repeating the word *guilty*, drew a penknife and gave himself three stabs, which will probably relieve the executioner from an unpleasant office.

A man, whose name was Martin, was convicted at Boston on the 1st inst. of manslaughter, for murdering his wife, and sentenced to two years imprisonment.

The Congress of allied Sovereigns, who lately met at Trappan, were to resume their deliberations at Laybach early in January. They had invited the king of Naples to attend, who had complied with the wish. It is said that a similar request has been made to the king of Spain, but it is doubted whether the Spanish people will consent to his departure.

The population of Great-Britain amounts to 17 millions; of France 26 millions; of Austria 28 millions; of Spain 11 millions; of the Netherlands 6 millions; of Prussia 11 millions; and of Russia, including Poland, 52 millions.

No change of ministers has taken place in England, as was looked for in consequence of the acquittal of the Queen. The parliament meet on 23d January, when it is expected that some warm debates will take place on this subject; ministers, it appearing, having some intention to introduce a proposition amounting to a *censure* of her conduct, while the opposition, joined to which is the great body of the nation, are exerting themselves to the utmost, to defeat this project.

Reign of George III.—In the single reign of this monarch, which lasted 59 years, the nation spent the incredible sum of 2,327 millions of pounds sterling, being three times the value of the kingdom; and it owes nearly one thousand millions of public debt, which is a greater sum than the value of all the land in England is worth, if every acre were sold at 25 years purchase on the annual rent.

The number of civil and military persons, imprisoned in Paris during 1820, was 4429; of suicides, or attempts at suicide, 199. The population of Paris was 713,765.

The king of France has authorised the nomination of a commission of physicians in the United States, to make inquiries into yellow-fever over the the two Americas.

A Halifax paper states that 15,000 lbs. pork, 12,000 lbs beef; 5,700 lbs poultry; 5,300 lbs mutton, were imported into St Johns, N. B. on the 18th ult. from Wiscasset.

In London, there are 15 daily newspapers; 13 weekly; 7 three times; 1 twice; and 15 on Sunday; in all 51.

Foreign Agricultural and Scientific Notices.

Indigo.—The following is an extract of a letter, dated Calcutta, July 15—"For several days past we have received successive and very heavy complaints of the loss of indigo-plant all over Bengal, as well from constant rains as from the early rise and inundation of the rivers. According to present appearances we shall not exceed the short supply shipped in the two seasons preceding that of 1819—20.

In the silk mills at Manchester in England there are 27,588 wheels and 14,846 diurnal movements, the whole of which is actuated by one great water wheel, which revolves three times in a minute, by which 73,723 yards of silk are twisted, or 218,504,860 yards in 24 hours.

It is stated in a late Liverpool paper, "that no less than two millions of pounds sterling worth of foreign corn, is at this time in warehouse on the banks of the river Thames, a prey to rats and weasels." The duty on hops in England for 1820, amounted to 240,584*l.* 14*s.* 6*d.* sterling.

In Scotland there is 3556 schools of all descriptions, in which are taught 176,303 children.

Life of Wm. Pitt.—A biography of this celebrated statesman is preparing by the bishop of Winchester, the early tutor, and confidential friend of Pitt through life.

Colonel Rafter, who was in the service of the Independents, has published in London, Memoirs of Gregor M'Gregor, and the other chieftains, including narratives of all their expeditions, with new views of the commerce of South America. Also views of Rio-de-la Hache, Porto Bello, Aux Cayes, and this city, with portraits of M'Gregor, Bolivar, Macirone, and Miranda, and a general map.

The travels of Sir Robert Ker Porter in Syria, Babylonia and Persia, are preparing for the press. George F. Lyon, companion of the late Mr. Ritchie, is about to publish his travels in northern Africa.

Memoirs of the celebrated Linnæus, written by himself, and lately discovered in the University of Upsal, will shortly appear: This work is to be published by professor Afzelius of Upsal, and will be translated into English, French and German.

An official Gazette is published daily in China, in the pamphlet form, each number extending to about 70 pages. It is considered the organ of government, in all matters relating to religion, laws, customs and manners; and, in order to insure its accuracy, not a single article is published until it is read and approved of by the Emperor. Any after alteration is punished with death.

Lectures on the art of Primitive Writing, have lately been delivered at Geneva and Louisania, by M. Brugner, formerly professor in the Academy of Nanci, in which he professes to designate, by a single stroke, every sound of the human voice: his plan is described as being perfectly just.

Pyroligenous Acid.—At the anniversary of the Whitehaven Philosophical Society two specimens of meat cured by this acid were exhibited. They were prepared on the 7th of September 1819: one was hung up at home, and the other sent out by a vessel to the West Indies. They were pronounced to be perfectly fresh, sweet and fit for use, after a lapse of 15 months.

Extraordinary Meteor.—A luminous body, more brilliant than the moon at its full, and in figure resembling a dragon, was seen in the horizon at Naples, in the evening of 20th December last. After passing along with great velocity, it changed into a dark and thick cloud, from which violent flashes of lightning burst, and, on their final disappearance, a loud peal of thunder was heard. The cloud then assumed a triangular figure and rolling rapidly to the east disappeared. On the following morning, the mountains to the east were found covered with snow, although the weather had been very mild.

A bottle thrown into the sea off the coast of Iceland on the 27th of July, was found near the Cambrae Isles on the 4th September last. It had thus travelled 300 miles in forty days; and if its course was not influenced by the winds this would indicate a current flowing south-eastward, at the rate of 20 miles a day. This current is no doubt a branch of the great gulph stream, which Humbolt thinks describes a perpetual circle,—passing down the western coast of Europe and Africa - then across the Atlantic to America—northward along the coast of that continent to Newfoundland—thence eastward to Iceland, and then over the same course again.

On Sunday se'nnight, about three p. m. a singular phenomenon was observed at *Montrose*, in the north-east. A snow-charged cloud assumed the appearance of the *aurora borealis*, with all the colours of the Iris, and continued to "start and shift," with great brilliancy, from north to south, for upwards of half an hour, when the cloud was dissipated in a fall of snow and hail upon the earth.—*Caledonian Mercury.*

Sir Wm. Wallace.—A colossal statue is about to be erected in Lanark, Scotland, to the memory of this extraordinary chief; it is 8 feet four inches in height, and three feet across the shoulders.

M. Mai, principal librarian of the Vatican at Rome, has discovered parts of the lost books of Polybius, Diodorus Siculus, and Dion Cassius, besides fragments of Aristotle, Ephorus, Hyperides, and Demetrius Phalerius; some fragments of Byzantine writers, such as Europeus, Menander, Priscus and Petrus Protector; and several harangues of Aristides, with seven books of the Physician Octritorius.

It appears from the narrative of the celebrated Traveller Belzoni, just published, that the ancient Egyptians were acquainted with the manufacture of linen; the art of tanning leather, and of staining it as we do morocco; and of fabricating glass. The art of enamelling and gilding was in great perfection in Egypt, where also they knew how to cast copper, and to form it into sheets, besides the working of several other metals. Belzoni says, that he saw different specimens of these articles, during his residence among the Egyptians.

A Roman Eagle, supposed the one lost at the defeat of the Roman legions in Franconia in the days of Augustus, was recently found, by Count Francis of Erbach, at Eulbach, in a ditch not far from a Roman entrenchment. It is of bronze, 13 inches in height, weighs 7 lbs. and is in a good state of preservation.

The seeds of the Colchicum have been prescribed with great effect in England in cases of asthma, a few doses of the syrup of which completely remove the symptoms and arrest incipient consumption. Wine extracted from the seeds, combined with alkali, is applied with success in curing gout and rheumatism.

An instance of spontaneous combustion took place near Glasgow, where a barrel of oatmeal took fire, and consumed every part of the barrel but the hoops, which were of iron. This is attributed to the moisture attracted by the oatmeal, which professor Leslie of Edinburgh says, has so strong an affinity to water, that it could be substituted for sulphuric acid in his well known method of freezing water, which is done by confining it over sulphuric acid under the exhausted receiver of an air pump.

On the first inst. the remains of a human skeleton, apparently that of an adult female, was discovered near Newtown, by the workmen employed on the line of the Carlisle Canal. The soil being peaty, the colour of every part was completely altered by carbonaceous deposition, excepting the enamel of the teeth, which retained its pristine whiteness. Some parts of the face and temple appeared to have been beat in and fractured, but their decayed state rendered any conclusion of that kind uncertain. All conjectures concerning the time of deposition must be vague; yet, unlike bones of great age, they did not moulder on exposure to the atmosphere. No remains of sepultural inclosure were discernible; they were about three feet from the surface of the earth, in a boggy hollow, which had formerly been one of the *fossæ* of AGRICOLA'S line of fortification, part of which is commonly called the Pict's wall.

Natural Curiosity—A tenant of the Rev. J. COTTLE, of Warwick, has just presented to him a part of a solid butt of an ash tree, containing within it the skull of some animal (unknown.) It was in a part of the tree nine feet above the ground, and was perfectly inclosed in solid timber. The tenant has resided upon the farm above 60 years, and had never noticed any opening in the tree; nor was there the least appearance in the bark or the wood that the part it now so firmly and solidly occupies was ever vacant. Some idea may be formed of the size of the skull, when it is stated, that the part which held the brain is about four inches in diameter.

Several *Java sparrows* are now exhibiting in London, who are represented to be perfect in the following seven languages: Chinese, English, French, German, Italian, Russian and Spanish. They are dexterous at shuffling cards and telling their numbers, also the hours on a watch. At the same exhibition, a variety of other living birds perform on the slack rope, &c.

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